PRS19

ASSESSMENT OF THE CLINICAL AND ECONOMIC IMPACT OF AIR LEAKS DURING POST-OPERATIVE PULMONARY SURGERY USING THE MEDICARE POPULATION

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OBJECTIVES: Estimate the clinical and economic impact to U.S. hospitals of air leaks during post-operative pulmonary surgery using the Medicare Provider Analysis and Review (MEDPAR) data set. **METHODS:** The 2008 The Medicare Provider Analysis and Review (MEDPAR) data set contains records for 100% of Medicare beneficiaries who use hospital inpatient services. For all stays with pulmonary surgery, length of stay (LOS), total charges, and in-hospital mortality rates were compared between those stays including an air leak vs. those stays without an air leak. Unadjusted results were calculated using descriptive statistics (mean, median, frequencies, etc.) Adjusted results were calculated using multivariate regression analysis while controlling for age and gender. **RESULTS:** There were a total of 41,348 hospital inpatient stays with pulmonary surgery in the 2008 MEDPAR data set, of these 8,774 (21.2%) included air leak and 32,574 (78.8%) of which did not. In the MEDPAR data set patients with pulmonary surgery stays including air leak had a similar age distribution to patients without air leak, had a longer LOS on average (10.7 days vs. 7.2 days; $P < .0001$), had more total charges ($78,830 vs. $63,528; $P < .0001$) and were nearly equally likely to die during their stay (14.8% vs. 13.94%; $p = 0.057$). After adjusting for differences in age and gender between the two groups, the incremental LOS and total charges due to the presence of air leak is 3.4 days and $14,532 respectively. The total additional economic impact of having an air leak after pulmonary surgery, estimated by applying patient level adjusted charges to the incidence of air leak, is $127.5 million. **CONCLUSIONS:** The clinical and economic impact to U.S. hospitals of air leaks during or following major pulmonary surgery is significant. The reduction of these air leaks could save considerable hospital resources, payer dollars and patient lives.

PRS20

OUTCOMES ASSOCIATED WITH IATROGENIC PNEUMOTHORAX

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OBJECTIVES: Iatrogenic pneumothorax occurs when air or gas becomes present in the pleural cavity following medical treatment. Besides subjecting the patient to unnecessary health risks, iatrogenic pneumothorax leads to an increased amount of health care resources including observed through patient cost, length of stay, and inpatient mortality. This research aims to quantify the incremental effects of iatrogenic pneumothorax on these three outcomes. **METHODS:** Discharge records from Premier's Perspective database of US inpatients who underwent inpatient pulmonary surgery and were discharged in 2007 were examined. The definition of iatrogenic pneumothorax consistent with ICD-9-CM code 512.1 was used to classify patients. Chi-square tests were used to detect differences between iatrogenic pneumothorax patients and non-iatrogenic pneumothorax patients for three outcomes. Multivariable regression models were used to obtain more precise estimates of the incremental effects of iatrogenic pneumothorax on outcomes while controlling for comorbidities, demographic variables and the patient's primary treatment. **RESULTS:** A total of 112,827 patients were analyzed (8,482 with iatrogenic pneumothorax). Chi-square tests demonstrated that patients with iatrogenic pneumothorax were older ($P < 0.0001$), had lower hospital costs ($P < 0.0001$), a shorter length of stay ($P < 0.0001$), and lower mortality rate ($P < 0.0001$). Log linear modeling demonstrated iatrogenic pneumothorax increases patient costs by 10.49% (95%CI: 8.76%–12.23%). Negative binomial models showed iatrogenic pneumothorax increases patients length of stay by 8.01% (95% CI: 6.21%–9.82%), while no difference was found with respect to mortality. **CONCLUSIONS:** The incremental effects of iatrogenic pneumothorax are shown to significantly increase patient costs and length of stay but not inpatient mortality.

PRS21

BURDEN OF BRONCHIAL ASTHMA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN RUSSIA

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OBJECTIVES: to assess social and economic burden of a Bronchial asthma and Chronic Obstructive Pulmonary Disease in Russian Federation. **METHODS:** "Cost of illness" analysis was performed. Available data on epidemiology of bronchial asthma and chronic obstructive pulmonary disease in the Russian Federation has been analyzed. Experts were questioned to describe the common practice of treating patients with bronchial asthma and chronic obstructive pulmonary disease. Direct costs, indirect costs and intangible costs were calculated. **RESULTS:** According to the state registration data, in 2007 the number of patients with bronchial asthma was 1.3 million and with chronic obstructive pulmonary disease— 2.4 million. The burden of bronchial asthma incorporates direct costs (€220.9 million), indirect costs (€67.4 million) and intangible costs (€69.6 million). The burden of chronic obstructive pulmonary disease is €210.6 million, €212 million, €207 million for direct costs, indirect costs and intangible costs respectively. Cost of BA and COPD is €987.8 million. **CONCLUSIONS:** According to the results of the analysis Bronchial asthma and Chronic Obstructive Pulmonary Disease proved to be an important medical and social problem in Russian Federation.

PRS22

COST OF COPD IN POLAND

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OBJECTIVES: About two million people suffer from COPD in Poland. The aim of this study was to examine direct, mean costs of COPD in Poland under usual clinical practice form societal perspective. **METHODS:** It was an observational retrospective and prospective bottom-up-cost-of- illness study, based on a retrospective sample of patients presenting with COPD. Total medical resources consumption of a sample of COPD patients were collected in 2008 year trough physician—lung specialists. Direct costs of COPD were evaluated based on data from different populations of five clinical hospitals and eight ambulatory cares. Medical resource consumptions were categorized by investigators as usual COPD follow up and number and severity of exacerbations.Resources utilization and cost data are summarised as mean values per patient per year; 95% confidence intervals were derived using percentile bootstrapping. **RESULTS:** In patients studied, number of free –of- exacerbation days was 331, 1, mean number of outpatient exacerbation was 1.27, mean number of exacerbations requiring hospital was 0.24. Average total medical resource consumption of a COPD patient per year was €1006.1. Among this cost €605 was directly related to treatment of stable COPD (costs of drugs, additional exams, costs of medical visits, influenza vaccination and home oxygen therapy), €105.3 to outpatient exacerbation, and €295.8 to exacerbation treated in hospital. **CONCLUSIONS:** The burden of COPD itself appeared to be considerable magnitude from societal perspective in Poland. Overall, the main cost drivers were inpatient care and prescription medication.

PRS23

COMPARISON OF DIFFERENT METHODS FOR ASSESSING ATTRIBUTABLE COSTS: A CASE OF MEDICAL COSTS ATTRIBUTABLE TO OBESE IN PATIENTS WITH ASTHMA

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OBJECTIVES: We compared two alternative methods (recycled prediction and Oaxaca-decomposition) to estimate medical costs attributable to obesity in US adults with asthma. **METHODS:** This study used the 2003–2007 Medical Expenditure Panel Survey to select asthma patients (18–64 years old), excluding patients with pregnancy, malignancy, kidney dialysis, immunodeficiency, or low body mass index (BMI < 18.5 kg/m^2). Obesity was defined as BMI >= 30 kg/m^2. Medication costs were estimated using a generalized linear model with a log-link function and gamma distribution. For the recycled predictions method, predicted treatment costs for obese patients were calculated assuming that obese patients were normal-weight, holding the distribution of covariates obtained from the entire asthma patient sample. With Oaxaca-decomposition, average treatment costs for each group (obese vs. normal weight) were estimated. The differences in average costs between the two groups were then estimated for two components: a) costs due to patient characteristics (endowments), and b) costs due to obese/normal-weight parameters (coefficient), considered as costs attributable to obesity. To compare the two methods, the difference in costs between obese and normal-weight patients was simulated, after matching for patient demographic and clinical characteristics,. All costs were converted to 2009 US dollars using price indices. **RESULTS:** The prevalence of obesity and normal-weight among 7340 asthmatic patients was 32.5% vs. 35.1%, respectively. In the recycled prediction method, costs attributable to obesity were US$1798 (95%CI: US$1717–$1878). In the Oaxaca-decomposition, the difference in medical costs between two groups consisted of US$1357 (95%CI: US$1252–$1462) due to endowments and US$1285 (95% CI: US$1229–$1341) due to coefficient components (i.e. costs attributable to obesity). The difference in costs from the simulation was US$1124 (US$1045–US$1203). **CONCLUSIONS:** Costs attributable to obesity obtained using Oaxaca-decomposition were similar to those of the simulation method, but the costs obtained using the recycled prediction method were higher than those of Oaxaca-decomposition and simulation.

PRS24

LONG-TERM EFFECTIVENESS AND COST-EFFECTIVENESS OF SMOKING CESSATION INTERVENTIONS IN PATIENTS WITH COPD

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OBJECTIVES: We aimed to estimate the long-term (cost-)effectiveness of smoking cessation interventions for patients with chronic obstructive pulmonary disease (COPD). **METHODS:** A systematic review was performed for randomized controlled trials on smoking cessation interventions in COPD patients reporting the 12-month biochemical validated abstinence rates. The different interventions were grouped into four categories: usual care, minimal counseling, intensive counseling and intensive counseling plus pharmacotherapy. For each category the average 12-months continu-